

**LOW SUPPLY-SENSITIVE AND WIDE TUNING-RANGE CMOS LC-TANK
VOLTAGE CONTROLLED OSCILLATOR MONOLITHIC INTEGRATED
CIRCUIT**

5

ABSTRACT

A voltage-controlled oscillator circuit connected to supply and reference voltage for radio frequency operation is disclosed. The circuit comprises at least one inductor
10 and at least one varactor connected in parallel with the at least one inductor. The circuit also comprises a pair of p-channel MOS transistors connected across the at least one varactor, each p-channel MOS transistor having source, drain, and gate terminals, wherein the drain terminal of the first of the pair of p-channel MOS transistors is connected to the gate terminal of the second of the pair of p-channel
15 MOS transistors and the drain terminal of second of the pair of MOS transistors being connected to the gate terminal of the first of the pair of MOS transistors. The circuit further comprises biasing means for providing a biasing current to the voltage-controlled oscillator circuit, the biasing means configured according to one of a biasing n-channel MOS transistor connected to the supply voltage and a biasing p-
20 channel MOS transistor connected to the reference voltage.